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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,909	10/30/2003	Jongmo Sung	51876P397	9718
8791 7590 09/11/2007 BLAKELY SOKOLOFF TAYLOR & ZAFMAN 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040			EXAMINER KOVACEK, DAVID M	
			ART UNIT 2609	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/697,909

Applicant(s)

SUNG ET AL.

Examiner

David Kovacek

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Objections

1. **Claim 7** is objected to because of the following informalities:
 - **Claim 7** should read, "...when a bandwidth of the input CELP format is wider than that of the output CELP format [forma], and interpolates the synthesized excitation signal..."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. **Claims 1-5 and 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dejaco, cited in a previous Office Action, in view of US Patent 6,950,463 hereinafter referred to as Moni.

Regarding **claim 1**, Dejaco discloses an apparatus for trans-coding between CELP type codecs having different bandwidths, comprising:

- A first type converting means for receiving formant parameters from the input bit stream and converting formant parameters from the type specified in the input CELP format to a suitable type for a formant bandwidth conversion (Fig. 6, item 610A; Fig. 7, item 702);

Art Unit: 2609

- a formant parameter translating means for translating formant parameters from input CELP format to output CELP format and generating formant parameters in an output CELP format (Fig. 5, item 502; Fig. 7, item 702; Col. 2, lines 45-49; Col. 7, lines 16-19);
- a formant parameter quantizing means for receiving the translated formant parameters and quantizing the translated formant parameters (Fig. 5, item 506; Fig. 7, item 712; Col. 2, lines 45-49; Col. 6, lines 55-57; Col. 7, lines 16-19);
- an excitation parameter translating means for translating excitation parameters from input CELP format to output CELP format and generating excitation parameters in an output CELP format (Fig. 6, item 630; Col. 2, lines 49-53; Col. 6, lines 04-08); and
- an excitation quantizing means for receiving the translated excitation parameters and quantizing the translated excitation parameters (Fig. 5, item 506; Col. 6, lines 60-62).

Dejaco does not adequately disclose that the formant parameter translating means includes a formant bandwidth converting means.

Moni discloses a video transcoder that is capable of decreasing or increasing bit rate based upon the bandwidth needs of the system (Col. 13, lines 01-08).

The two references are combinable because each is directed to a method of transcoding digital media bit streams. Though Moni is particularly directed to video transcoding, it is also disclosed that the teachings of Moni may be implemented for use with signal types known in the art to include digital audio data (Col. 6, lines 01-11) in multi-modal transmission. Moni provides motivation in disclosing the utility of a system that can adapt in real-time to the bandwidth demands of the signal's bit rate (Col. 8, lines 51-63).

Therefore, the examiner contends that it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Dejaco using the teachings of Moni in order to implement a multi-modal transcoding system that can adapt in real-time to the bandwidth demands of the signal's bit rate.

Regarding **claim 2**, Dejaco in view of Moni discloses all limitations of **claim 1** as applied above and Dejaco further discloses:

- a formant model order converting means for receiving the input formant parameters from the second type converting means and converting the formant parameters from the model order in the input CELP format into the model order in the output CELP format (Fig. 7, item 704; Fig. 6, item 602);
- a third type converting means for receiving the order-corrected formant parameters from the formant model

Art Unit: 2609

order converting means and converting the formant parameters from the type used in the model order converting means to a suitable type for frame rate conversion (Fig. 6; item 610B);

- a formant frame rate converting means for receiving the input formant parameters from the third type converting means and converting the formant parameters from the frame rate in the input CELP format to the frame rate in the output CELP format (Fig. 7, item 708); and
- a fourth type converting means for receiving the frame rate-corrected formant parameters from the formant frame rate converting means and converting the formant parameters from the type used in the formant frame rate converting means to a suitable type for the formant parameter quantizing means in the output CELP format (Fig. 6, item 610C).

Though Dejaco in view of Moni does not explicitly disclose a second type converting means for bandwidth-conversion, this limitation is inherently required of any system that permits transcoding between codecs of different bandwidths as is made obvious by Dejaco in view of Moni.

Art Unit: 2609

Regarding **claim 3**, Dejaco in view of Moni discloses all limitations of **claim 1** as applied above, and Moni further discloses a bandwidth converting means capable of reducing the bandwidth during transcoding (Col. 13, lines 01-08).

Regarding **claim 4**, Dejaco in view of Moni discloses all limitations of **claim 2** as applied above, and Dejaco further discloses the use of truncation and extension for model order correction (Col. 7, lines 30-41).

Regarding **claim 5**, Dejaco in view of Moni discloses all limitations of **claim 2** as applied above, and Dejaco further discloses the use of interpolation and decimation for adjusting frame rates (Col. 7, line 63 – Col. 8, line 08).

Regarding **claim 8**, this claim is very similar to **claim 1**, and is rejected for the same reasons.

Regarding **claim 9**, this claim is very similar to **claim 1**, and is rejected for the same reasons.

It is noted by the examiner that **claim 9** is specifically directed to the implementation of a computer readable medium, which is disclosed by Moni (Col. 1, lines 08-10).

4. **Claims 6-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dejaco in view of Moni, and in further view of Koa, cited in a previous Office Action.

Regarding **claim 6**, Dejaco in view of Moni discloses all limitations of **claim 2** as applied above, and Dejaco additionally discloses an excitation parameter translator that includes an excitation synthesizing means (Fig. 6, item 606; Col. 8, lines 25-31) and a codebook searcher (Fig. 6, item 608; Col. 7, lines 07-08; Col. 8, lines 32-34).

Moni further discloses a video transcoder that is capable of decreasing or increasing bit rate based upon the bandwidth needs of the system (Col. 13, lines 01-08).

Dejaco in view of Moni does not adequately disclose a separation of adaptive and fixed codebooks, a perceptual weighting filter before the codebook searching means, nor the excitation bandwidth converting means.

Koa discloses a CELP vocoder that includes both an adaptive and fixed codebook (Fig. 4; Col. 5, lines 42-59), and also perceptual weighting filters before codebook searching (Fig. 4, items 66-68; Col. 5, line 69 – Col. 6, line 09).

These references are combinable because each is directed to a method of transcoding digital media bit streams. Though Moni is particularly directed to video transcoding, it is also disclosed that the teachings of Moni may be implemented for use with signal types known in the art to include digital audio data (Col. 6, lines 01-11) in multi-modal transmission. Moni provides motivation in disclosing the utility of a system that can adapt in real-time to the bandwidth demands of the signal's bit rate (Col. 8,

Art Unit: 2609

lines 51-63). Koa provides further motivation in disclosing the need for reduced complexity of processing the excitation parameters of a CELP-type codec (Col. 3, lines 42-45).

Therefore, the examiner contends that it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Dejacó in view of Moni to implement a multi-modal transcoding system for video and CELP-type speech codecs that can adapt in real-time to the bandwidth demands of the signal's bit rate, and to further use the teachings of Koa to reduce the complexity of processing the excitation parameters of a CELP-type codec.

Regarding **claim 7**, Dejacó in view of Moni in further view of Koa discloses all limitations of **claim 6** as applied above, and Moni further discloses the ability of the transcoder to detect the bandwidth capabilities of its input and output bitstreams and appropriately covert the input bitstream bandwidth to accommodate the output bitstream bandwidth (Col. 13, lines 01-08).

Terminal Disclaimer

5. The terminal disclaimer filed on August 2, 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

6. Applicant's arguments with respect to **claims 1-9** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Kovacek whose telephone number is (571) 270-3135. The examiner can normally be reached on M-F 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone

Art Unit: 2609

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alexander Eisen
SPE
Art Unit 2609

DMK 09/04/2007